

**Berryessa Creek Element  
Coyote and Berryessa Creeks  
Flood Control Project  
Santa Clara County, California**

**Appendix A: Environmental**

**Part VI**

**USFWS Draft Coordination Act Report**







## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825-1846



In Reply Refer To:  
81420-2011-CPA-0084

APR 23 2012

Alicia Kirchner  
Chief, Planning Division  
Corps of Engineers, Sacramento District  
1325 J Street  
Sacramento, California 95825-2922

Dear Ms. Kirchner:

The Corps of Engineers has requested coordination under the Fish and Wildlife Coordination Act (FWCA) for the Berryessa Creek Flood Control Project. The proposed flood control project is located on Berryessa Creek in Santa Clara County, California. The enclosed report constitutes the Fish and Wildlife Service's draft FWCA report for the proposed project.

By copy of this letter we are requesting the agencies below to review and provide any comments on the draft report by May 25, 2012. If you have any questions regarding this report, please contact Doug Weinrich at (916) 414-6563.

Sincerely,

Daniel Welsh  
Assistant Field Supervisor

Enclosure

cc:

Jamie Lefevre, COE, Sacramento, CA  
NOAA Fisheries, Sacramento, CA  
Regional Manager, CDFG, Yountville, CA  
Central Valley Flood Protection Board, Sacramento, CA



**FISH AND WILDLIFE COORDINATION ACT REPORT**  
**BERRYESSA CREEK FLOOD CONTROL PROJECT**  
**April 2012**

This is the Fish and Wildlife Service's (Service) draft Fish and Wildlife Coordination Act (FWCA) report on the effects of the proposed Berryessa Creek Flood Control Project on fish and wildlife resources along Berryessa Creek in Milpitas, California. This report has been prepared under authority of, and in accordance with, the provisions of the Fish and Wildlife Coordination Act (16 U.S.C. sec 661).

**BACKGROUND**

The Berryessa Creek watershed is located in Santa Clara County, California, south of San Francisco Bay. Berryessa Creek is a tributary to the Coyote Creek system, which flows into the southernmost end of San Francisco Bay. The creek flows west out of the Diablo Range and into the residential neighborhoods of San Jose and Milpitas, finally turning north through industrial portions of Milpitas before joining Lower Penitencia Creek.

The proposed work is located on Berryessa Creek between East Calaveras Blvd. and Hwy 680. The downstream end of the reach terminates at East Calaveras Blvd and extends upstream 2.25 miles.

Since the completion of the Draft Berryessa Creek Project General Design Memorandum (GDM) in December 1993, the proposed plan has not been supported by the local community primarily due to the concrete channel features that were recommended. Also, refinements in design, costs, and benefits resulted in costs that exceeded benefits, thereby precluding Federal involvement in the project. A project study plan was developed in July 1996 to identify a more locally acceptable plan and complete a GDM. However, all planning and engineering work ceased in October 1996 due to unresolved issues on the direction and funding of the study. Since flooding is still a significant problem along Berryessa Creek, the Santa Clara Valley Water District (SCVWD) requested that the Corps reevaluate flood protection alternatives to find a more environmentally acceptable solution.

The primary purpose of the ongoing reevaluation study is to assess the feasibility of modifying the project to: 1) reduce flood damages to populated areas, 2) reduce sedimentation and maintenance requirements, 3) provide access and recreation to the public, as feasible, 4) restore environmental values whenever possible through the study reach consistent with the flood damage reduction purpose of the project, and 5) avoid and minimize effects to riparian and aquatic habitat.

**PROJECT DESCRIPTION**

There are five alternatives being evaluated; however, Alternative 1 and Alternative 5 are not being pursued. Alternative 1 is the no action alternative and would not meet project objectives. Alternative 5 is the earlier authorized project which is not being pursued due to high costs and lack of community support. Alternative 2, Alternative 3, and Alternative 4 have similar project

footprints, but offer different levels of protection. Alternative 2 provides a 100-year flood protection whereas, Alternative 3 and Alternative 4 provide a **Federal Emergency Management Agency (FEMA)** certified level of protection i.e., the means to pass a 200-year flood event. The project features unique to each alternative are described below.

*Alternative 1: No Action*

The No Action Alternative is being carried forward and analyzed to provide a basis from which to assess the advantages and disadvantages of the other study alternatives. This alternative assumes the likely future conditions in the project area without implementation of any of the action alternatives. Under this alternative, the Authorized Project would not be completed, objectives for flood protection would not be met, and an unacceptable public health and safety hazard (flooding in the cities of Milpitas and San Jose) would continue to occur.

*Alternative 2: Incised Trapezoidal Channel (Moderate Protection)*

Alternative 2 involves modification and/or replacement of bridge and culvert crossings and modification of the channel reaches downstream of I-680. The leveed channel reaches would have a modified earthen trapezoidal shape with bottom width varying from 10 feet to 50 feet. The side slopes would have 2 horizontal (H) to 1 vertical (V) ratio and cellular bank protection. The earthen levees would vary from 0 to 4 feet high and are designed to contain the 0.01 overtopping probability event discharges.

*Alternative 3: Incised Trapezoidal Channel (FEMA Protection)*

Alternative 3 involves modifications and/or replacement of bridges and culvert crossings. The channel reaches would have a modified earthen trapezoidal shape with bottom width varying from 10 feet to 70 feet. Side slopes would have 2H: 1V ratio and cellular bank protection. The floodwalls would be constructed 2 to 5 feet high where necessary. The location of the access road would vary.

*Alternative 4: Walled Trapezoidal Channel (FEMA Protection)*

The bridge and culvert modifications for Alternative 4 are consistent with Alternative 3. Alternative 4 involves the construction of vertical concrete floodwalls ranging from 0 to 5 feet high. Two vegetated floodplain benches; a 32-foot-wide bench on the left bank, and a 10-foot-wide bench on the right bank would be constructed. The right-of way restrictions require adaptation of the typical channel cross section to accommodate an access road within the available right-of-way. In areas with limited right-of-way, the access road would need to be located on the inside of the floodwall in order to allow for additional conveyance area. Transition ramps would be needed in areas where the access road location changes.

*Alternative 5: Authorized Project*

The authorized project consists of a sediment basin constructed upstream of Old Piedmont Road, modifications of the existing sediment basin, earthen levees in the greenbelt, and a concrete trapezoidal channel downstream of I-680.

Channel widening in combination with levees/floodwalls are proposed to meet the required level of protection. The extent of armoring varies from section to section, depending on overall footprint. In narrow reaches, for example, the toe protection may be continuous. Depths and

sizes of armoring would be further refined in the design phase to maintain the integrity of the channel. The channel profile may require grade control structures at bridge or utility crossings to prevent downcutting of the channel. Further geomorphic and sediment transport analyses may determine whether there is a need for additional grade control.

The presence of several trees within 15 feet of the top of the existing levees would be addressed by either placement of an underground root barrier wall or, for trees expected to be severely damaged by the cutoff wall placement, removal may occur.

The access road surface would need to be graded and compacted to sustain flood flows, and a cross slope for drainage would be required. Access road location is generally described on the right bank; however, it may be located on left bank if deemed appropriate during the design phase. Several tributaries enter the channel from the right, and construction of additional bridge crossings for an access road may be avoidable with placement along the left bank. Final placement would consider findings from a full utility inventory in the area, and the final access road configuration may vary from reach to reach.

Project alternatives involve the complete replacement of all bridge and culvert crossings with the exception of the Ames Avenue and Yosemite Drive crossings, which would require shoring/stabilization of existing abutments and construction of transition structures, and the I-680 crossing, which would not be affected by the proposed project. Utility modifications are required under all scenarios.

Construction would occur from May to October over two or three construction seasons depending on funding. Mobilization would occur the first week of May and demobilization would last one week at the end of October. The construction schedule would be a 5 day work week with an 8-10 hour work day.

## **BIOLOGICAL RESOURCES**

Berryessa Creek is a tributary to Penitencia Creek and part of the Coyote Creek system, which flows out of the Diablo Range, through the residential neighborhoods of San Jose and Milpitas, and into the southernmost end of San Francisco Bay.

### **Vegetation**

Suitable habitat for wildlife in Berryessa Creek occurs outside project boundaries in Berryessa Park and the greenbelt, as well as upstream of Old Piedmont Road. Downstream of the greenbelt, the vegetation consists of patchy annual grasses separated by bare dirt. The SCVWD maintains the levees and the channel inside the project area. Practices include removal of vegetation and sediment from the bottom of the channel and the use of herbicides on the stream banks. Frequent spraying or mowing of creek bank vegetation prevents the establishment of riparian species. The vegetation in and around the project area include cattails, floating primrose, willow, hyssop loosestrife, watercress, brooklime, rabbit foot grass, barnyard grass, and knotweed. A few ornamental trees and one blue elderberry shrub are present within the project area, but are sporadic along industrial property boundaries along the levee access road.

## **Wildlife**

The project area has poor to non-existent wildlife habitat due to channelization and vegetation removal. Field surveys conducted in the project area have documented some of the common species that inhabit the area. Bird species observed include: great egret, black-crowned night heron, western scrub jay and mourning dove. Amphibians found in the creek include Pacific treefrog and western toad. Mammals observed include ground squirrels and muskrat. As Berryessa Creek is located adjacent to highly urbanized areas, feral cats were also observed (SCVWD 2005).

## **Fish**

Berryessa Creek upstream of Calaveras Boulevard is an intermittent stream with occasional flows in the winter, but middle reaches of the creek are dry throughout most of the year. The only portion of the creek with perennial flow and potentially suitable habitat for small, warmwater fish species is downstream of the confluence with Piedmont Creek. But even this reach has seasonally high water temperatures and low dissolved oxygen that would be lethal to anadromous fish and most other fish species during the summer months.

Just downstream of Calaveras Boulevard, two fish species were collected, the mosquitofish and California roach. The mosquitofish is a non-native freshwater species introduced throughout California for mosquito control. This fish is adapted for life in shallow, often stagnant water where predatory fish are absent and temperatures are too high for other species. The California roach is a native species widely distributed throughout central and northern California. This species is tolerant of high temperatures and low oxygen levels, which enables them to survive in areas unsuitable for most other fish species. California roach thrive when found alone or in association with one or two other species. Neither the mosquitofish or California roach is State or Federally listed or has any special status.

Potential steelhead use of Berryessa Creek is limited by several physical conditions. Continuous flows of suitable depth (at least 7 inches) for adult steelhead passage occurred for only an estimated 2 to 5 days during the 2-year flow monitoring study. Reaches with a normally dry creek bed, low flows, sheet flows over concrete channels, poor spawning substrate, and physical barriers to passage preclude steelhead migration into Berryessa Creek.

Based on the results of a fisheries investigation conducted by Environmental Science Associates, the only fish species likely to be found in the project area are the mosquitofish and California roach and only in the reach between Calaveras Boulevard and Piedmont Creek where there are constant flows (Rieger and Podlech 2002).

## **Endangered Species**

Appendix A contains a list of federally listed species which may be found in Santa Clara County. There are several State and Federally listed species which could occur within or around the project area. The Corps will need to determine the possible effects of the proposed project on listed species and consult with the appropriate resource agency.



## DISCUSSION

### Service Mitigation Policy

The recommendations provided herein for the protection of fish and wildlife resources are in accordance with the Service's Mitigation Policy as published in the Federal Register (46:15; January 23, 1981).

The Mitigation Policy provides Service personnel with guidance in making recommendations to protect or conserve fish and wildlife resources. The policy helps ensure consistent and effective Service recommendations, while allowing agencies and developers to anticipate Service recommendations and plan early for mitigation needs. The intent of the policy is to ensure protection and conservation of the most important and valuable fish and wildlife resources, while allowing reasonable and balanced use of the Nation's natural resources.

Under the Mitigation Policy, resources are assigned to one of four distinct Resource Categories, each having a mitigation planning goal which is consistent with the fish and wildlife values involved. The Resource Categories cover a range of habitat values from those considered to be unique and irreplaceable to those believed to be much more common and of relatively lesser value to fish and wildlife. The Mitigation Policy does not apply to threatened and endangered species, Service recommendations for completed Federal projects or projects permitted or licensed prior to enactment of Service authorities, or Service recommendations related to the enhancement of fish and wildlife resources.

In applying the Mitigation Policy during an impact assessment, the Service first identifies each specific habitat or cover-type that may be impacted by the project. Evaluation species which utilize each habitat or cover-type are then selected for Resource Category analysis. Selection of evaluation species can be based on several rationale, as follows: (1) species known to be sensitive to specific land- and water-use actions; (2) species that play a key role in nutrient cycling or energy flow; (3) species that utilize a common environmental resource; or (4) species that are associated with Important Resource Problems, such as anadromous fish and migratory birds, as designated by the Director or Regional Directors of the Fish and Wildlife Service. (Note: Evaluation species used for Resource Category determinations may or may not be the same evaluation species used in a HEP application, if one is conducted). Based on the relative importance of each specific habitat to its selected evaluation species, and the habitat's relative abundance, the appropriate Resource Category and associated mitigation planning goal are determined.

Mitigation planning goals range from "no loss of existing habitat value" (i.e., Resource Category 1) to "minimize loss of habitat value" (i.e., Resource Category 4). The planning goal of Resource Category 2 is "no net loss of in-kind habitat value"; to achieve this goal, any unavoidable losses would need to be replaced in-kind. "In-kind replacement" means providing or managing substitute resources to replace the habitat value of the resources lost where such substitute resources are physically and biologically the same or closely approximate those lost.

In addition to mitigation planning goals based on habitat values, Region 8 of the Service, which includes California, has a mitigation planning goal of no net loss of acreage and value for wetland habitat. This goal is applied in all impact analyses.

In recommending mitigation for adverse impacts to fish and wildlife habitat, the Service uses the same sequential mitigation steps recommended in the Council on Environmental Quality's regulations. These mitigation steps (in order of preference) are: avoidance, minimization, rectification of measures, measures to reduce or eliminate impacts over time, and compensation.

Two fish and/or wildlife habitats were identified in the Berryessa Creek Flood Control Project areas which have the potential to be impacted by the project. These are emergent wetland and annual grassland. The resource categories, evaluation species, and mitigation planning goal for the habitats impacted by the project are summarized in Table 1.

Table 1. Resource categories, evaluation species, and mitigation planning goals for the habitats impacted by the Berryessa Creek Flood Control Project.

COVER-TYPE	EVALUATION SPECIES	RESOURCE CATEGORY	MITIGATION GOAL
Emergent wetland	Great egret	2	No net loss of habitat while minimizing loss of in-kind value
Annual grassland	Red-tailed hawk	4	Minimize loss of habitat value

The evaluation species selected for the emergent wetland cover-type that would be impacted is the great egret. This species was selected because of: (a) their key role as predators in the ecosystem, (b) the Service's responsibility for their protection and management under the Migratory Bird Treaty Act, and (c) their overall high non-consumptive value to humans (i.e., bird watching). In general, emergent wetland habitat is valuable for a multitude of wildlife species, which include birds, mammals, reptiles, and amphibians. In the project area this cover-type is only located in the floodplain of the creek. Due its relative scarcity, the Service designates the emergent wetland cover-type in the project area as Resource Category 2. Our associated mitigation planning goal for these areas is "no net loss of habitat value while minimizing loss of in-kind habitat value."

The evaluation species selected for the annual grassland cover-type is the red-tailed hawk, which utilizes these areas for foraging. This species was selected because of the Service's responsibility for their protection and management under the Migratory Bird Treaty Act, and their overall high non-consumptive values to humans. Annual grassland areas potentially impacted by the project vary in their value to the evaluation species, depending on the degree of human disturbance, plant species composition, and juxtaposition to other foraging and nesting areas. Overall, the annual grassland values in the project area are low. Therefore, the Service designates the annual grassland cover-type in the project area as Resource Category 4. Our associated mitigation planning goal for these areas is "minimize loss of habitat value."

Wildlife species inhabiting habitat around the construction area may be temporarily displaced during construction activities, but are expected to return when construction is completed.

Construction impacts to annual grassland on the levee and adjacent to the levee toe would be temporary and would be restored following construction activities by reseeding the impacted areas with native grasses.

Based on our initial review, the proposed project would result in the temporary loss of habitat acreage and value for species inhabiting emergent wetland and annual grassland habitat. Wildlife species utilizing these areas would be displaced during construction activities and would likely return to the area following the completion of the project.

The highly impacted nature of the creek provides little habitat or diversity for fish and wildlife species in its current state. Designs focused on alternatives which provide benefits to fish and wildlife through the creation of a more natural stream profile should be completed. The creation of vegetated floodplain benches is a step in this direction and could significantly improve the utility of the creek for fish and wildlife as well as provide an appropriate level of flood protection. Currently, Alternative 4 is the Service's preferred alternative as it would provide the multi-benefits of a high level of flood protection and improvements to the creek by creating the vegetated floodplain benches.

## **RECOMMENDATIONS**

The Service recommends that the Corps:

- 1) Avoid impacts to any native trees, shrubs, and aquatic vegetation within and adjacent to the site to the extent possible.
- 2) Avoid future impacts at the site by ensuring any fill material used for construction is free of contaminants.
- 3) Avoid impacts to migratory birds nesting in trees along the access routes and adjacent to the proposed sites by conducting preconstruction surveys for active nests along proposed haul roads, staging areas, and construction sites. This would be especially important if construction begins in the spring. Work activity around active nests should be avoided until young have fledged.
- 4) Minimize impacts by reseeding all disturbed areas at the completion of construction with native forbs and grasses.
- 5) Minimize the impact of removal and/or trimming of any trees and shrubs by having these activities supervised and/or completed by a certified arborist.
- 6) Work with the Service and other resource agencies to quantify project affects and determine mitigation needs for the selected project alternative.
- 7) Contact NOAA Fisheries for possible effects of the project on federally listed species under their jurisdiction.

- 8) Contact the California Department of Fish and Game regarding possible effects of the project on State listed species.

#### **LITERATURE CITED**

Rieger, P. and Podlech, M. 2002. Berryessa Creek Levee Project Fisheries Investigations. Environmental Science Associates. 2002.

SCVWD. 2005. Summary of Biological Surveys Conducted by Santa Clara Valley Water District. Prepared by Melissa Moore, biologist.

## **Appendix A**

**Federal Endangered and Threatened Species that may  
occur in or may be affected by the project**



**U.S. Fish & Wildlife Service**

**Sacramento Fish & Wildlife Office**

**Federal Endangered and Threatened Species that Occur in  
or may be Affected by Projects in the Counties and/or  
U.S.G.S. 7 1/2 Minute Quads you requested**

**Document Number: 120419033637**

**Database Last Updated: September 18, 2011**

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No quad species lists requested.

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**County Lists**

**Santa Clara County**

**Listed Species**

**Invertebrates**

- Branchinecta conservatio
  - Conservancy fairy shrimp (E)
- Branchinecta lynchi
  - vernal pool fairy shrimp (T)
- Desmocerus californicus dimorphus
  - valley elderberry longhorn beetle (T)
- Euphydryas editha bayensis
  - bay checkerspot butterfly (T)
  - Critical habitat, bay checkerspot butterfly (X)
- Lepidurus packardii
  - Critical habitat, vernal pool tadpole shrimp (X)
  - vernal pool tadpole shrimp (E)

**Fish**

- Acipenser medirostris
  - green sturgeon (T) (NMFS)

- *Eucyclogobius newberryi*
  - tidewater goby (E)
- *Hypomesus transpacificus*
  - delta smelt (T)
- *Oncorhynchus kisutch*
  - coho salmon - central CA coast (E) (NMFS)
  - Critical habitat, coho salmon - central CA coast (X) (NMFS)
- *Oncorhynchus mykiss*
  - Central California Coastal steelhead (T) (NMFS)
  - Central Valley steelhead (T) (NMFS)
  - Critical habitat, Central California coastal steelhead (X) (NMFS)
  - South Central California steelhead (T) (NMFS)
- *Oncorhynchus tshawytscha*
  - Central Valley spring-run chinook salmon (T) (NMFS)
  - winter-run chinook salmon, Sacramento River (E) (NMFS)

**Amphibians**

- *Ambystoma californiense*
  - California tiger salamander, central population (T)
  - Critical habitat, CA tiger salamander, central population (X)
- *Rana draytonii*
  - California red-legged frog (T)
  - Critical habitat, California red-legged frog (X)

**Reptiles**

- *Gambelia (=Crotaphytus) sila*
  - blunt-nosed leopard lizard (E)
- *Masticophis lateralis euryxanthus*
  - Alameda whipsnake [=striped racer] (T)
  - Critical habitat, Alameda whipsnake (X)
- *Thamnophis gigas*
  - giant garter snake (T)



- *Thamnophis sirtalis tetrataenia*
  - San Francisco garter snake (E)

**Birds**

- *Brachyramphus marmoratus*
  - Critical habitat, marbled murrelet (X)
  - marbled murrelet (T)
- *Charadrius alexandrinus nivosus*
  - western snowy plover (T)
- *Pelecanus occidentalis californicus*
  - California brown pelican (E)
- *Rallus longirostris obsoletus*
  - California clapper rail (E)
- *Sternula antillarum* (=Sterna, =albifrons) browni
  - California least tern (E)
- *Vireo bellii pusillus*
  - Least Bell's vireo (E)

**Mammals**

- *Reithrodontomys raviventris*
  - salt marsh harvest mouse (E)
- *Vulpes macrotis mutica*
  - San Joaquin kit fox (E)

**Plants**

- *Castilleja affinis* ssp. neglecta
  - Tiburon paintbrush (E)
- *Ceanothus ferrisae*
  - Coyote ceanothus (E)
- *Dudleya setchellii*
  - Santa Clara Valley dudleya (E)

- *Eriophyllum latilobum*
  - San Mateo woolly sunflower (E)
  
- *Holocarpha macradenia*
  - Critical habitat, Santa Cruz tarplant (X)
  - Santa Cruz tarplant (T)
  
- *Lasthenia conjugens*
  - Contra Costa goldfields (E)
  - Critical habitat, Contra Costa goldfields (X)
  
- *Streptanthus albidus* ssp. *albidus*
  - Metcalf Canyon jewelflower (E)
  
- *Suaeda californica*
  - California sea blite (E)

#### **Proposed Species**

##### **Amphibians**

- *Rana draytonii*
  - Critical habitat, California red-legged frog (PX)

#### **Key:**

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

### **Important Information About Your Species List**

#### **How We Make Species Lists**

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

### Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

### Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

### Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

**Take incidental to an otherwise lawful activity may be authorized by one of two procedures:**

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.
- During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.
- Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

**Critical Habitat**

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

**Candidate Species**

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

**Species of Concern**

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. [More info](#)

**Wetlands**

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

**Updates**

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 18, 2012.